

S/001/62/000/021/010/069
B156/B101

AUTHORS: Slicher, J., Tichý, M., Šipos, F., Panková, M.

TITLE: Stereochemical research. XX. Conformational study of 2-amino-4-tert-butyl-cyclohexanols; an attempt at quantitative conformational analysis of the part played by adjacent groups and by solvolysis in 1:2 - difunctional derivatives of cyclohexane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1962, 116, abstract 21Zh10 [Collect. Czechosl. Chem. Commun., v. 26, no. 9, 1961, 2416 - 2434 [Engl.: summary in Russ.]]

TEXT: The article describes the transformation of the methane sulfonates of cis- and trans-2-benzamido cyclohexanols (cis- and trans-I), trans-2-benzamido-cis-4-tert-butyl-cyclohexanol (O^A, N^A) (II), trans-2-benzamido-trans-4-tert-butyl-cyclohexanol (O^A, N^B) (III), cis-2-benzamido-cis-4-tert-butyl-cyclohexanol (O^A, N^B) (IV), and cis-2-benzamido-trans-4-tert-butyl-cyclohexanol (O^B, N^A) (V) which takes place in absolute alcohol in Card 1/6

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the presence of KOCOC_2H_5 . In the case of trans-I, II and III a γ -oxazolinium ion forms by intramolecular $\text{S}_{\text{N}}2$ mechanism, which requires that the C_6H_5 , CONH - and MeSO -groups are located trans-axially. This condition is satisfied in II, and the rate of transformation is thus high (k is $6280 \cdot 10^{-6} \text{ sec}^{-1}$ at 60°C); the condition can also be fulfilled for the chair form in the mobile trans-I system (k is $252 \cdot 10^{-6} \text{ sec}^{-1}$ at 60°C); it can, however, hardly be achieved for the chairform conformation of III, since the tert- C_4H_9 -group must also occupy the A-position, while III reacts at a considerable speed (k is $76.2 \cdot 10^{-6} \text{ sec}^{-1}$ at 60°C). Obviously the reaction takes the "twist" form, in which the trans-A-position is achieved with the least possible stresses by comparison with other conformations. The possibility of a carbonium ion forming, followed by closing of the ring, is rejected on the basis of the following arguments: 1) the fact that no oxazolinium is formed in the case of cis-I, IV or V (with these compounds ethanolysis takes place and unsaturated and ethoxy products are formed), these being other cases in which a carbonium ion might form,

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2) the fact that there is a greater difference in reaction rates between III and cis-I, and between IV and V ($k \cdot 10^{-6} \text{ sec}^{-1}$: cis-I, 0.687; IV, 0.692; V, 2.95 at 60°C) than between III and II or trans-I, 3) the ratio of the reaction rates for I, II and III to the reaction rates for the corresponding N-p-nitro-benzoyl derivatives is 4, while the analogous relationship for cis-I is 1.4. This confirms that the same reaction mechanism is common to trans-I, II and III. The authors consider the fact that ethanolysis takes place faster in the case of V (O^E) than in the case of IV (O^A) is due to the steric stress being less reduced during the formation of the carbonium ion in the case of IV than in that of V; this is because in the case of IV the bulky $E-C_6H_5CONH$ -group becomes close to H-trigonal C, while in the case of V it departs further from this form (by analogy with 2-halocyclohexanones the angles between the C-H bond and the E-C-N bonds and A-C-N bonds are taken as being 15° and 105° respectively). Analysis of the reaction rate data shows that in the case of trans-I the form of the reaction is partially "twist" form, while the ratio between the amounts of I reacting in chair form and twist form is:

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$K_c k_c / k_b k_b = 2.3 (k_b k_b + k_{III})$. $K_c k_c = k_I - k_{III}$. The details of reaction rates were also used for calculating the conformational equilibrium state for trans-I:

$$K_{EE}^{AA} = k - k_{EE}/k_{AA} = k * k_I - k_{III}/k_{II} - k_I = 0.0292;$$

it is assumed that II and III are conformationally homogeneous. There is no doubt about the conformational homogeneity of III, and that of II is confirmed by the fact that the infra-red spectra show the conformation of N-methyl-amino-tert-butyl-cyclohexanol to be exclusively diaxial chair-form, while as regards steric properties the C_6H_5CO -group and CH_3 -group are almost the same. This value of K corresponds to 91% of the diequatorial chair conformation for trans-I. Since cis-I and V have almost equal rates of ethanolysis, in alcohol solutions at 60°C cis-I is present in conformation with the E- C_6H_5CONH -group. The motive force of the C_6H_5CONH -group in the acceleration of the formation of the oxazolinium ion in the case of II is gauged by comparing k_{II} and k_{IV} to 5.5 kcal; evidently,

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however, as ethanalysis of the tosylate of 4-tert-butyl-2-methyl-cyclohexanol and certain preliminary considerations show, it has a higher value. To 0.01 moles of the corresponding benzamido-4-tert-butylcyclohexanol dissolved in 15 ml dry pyridine 0.02 mole of freshly distilled methane sulfonylchloride is added at -10°C ; the whole is held at 0°C for 6 - 12 hr and diluted with water. The crystals are filtered off, and washed in water and petroleum ether. The percentage yields and melting points, in $^{\circ}\text{C}$, of the substances obtained are: II 78, 93 - 94; IV 78, 126.5 - 127 (from ethyl acetate); V 83, 133 - 134 (from ethyl acetate); for the production of III, see report XIX, RZhKhim, 1962, abstract 12Zh7, melting point 140 - 141 $^{\circ}\text{C}$. 0.0037 moles of IV dissolved in 100 ml absolute alcohol is heated with 0.0051 mole of KOCOCH_3 for 70 hrs at 95°C ; the KOSO_2CH_3 is filtered off and washed with alcohol, the filtrate evaporated in vacuo, and the residue shaken up with ether and an aqueous Na_2CO_3 solution; the ether extracts are washed in water and dried. Of the oil separated, 1.05 g is analyzed chromatographically on neutral Al_2O_3 . 20 and 50 %, respectively, of 2-benzamido- and 6-benzamido-4-tert-butyl-cyclohexane-1 (VI and VII), 30 % of 2-benzamido-4-tert-butyl-ethoxy cyclohexane

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(VIII) and traces of 2-benzamido-3-tert-butyl-cyclohexanol acetate (IX).
are washed out with C_6H_6 and ether. The ethanolysis of V is carried out
under the same conditions, but the heating continues for 23 hrs; the oil
separated amounts to 1.15 g, and separation on neutral Al_2O_3 has shown
that it consists of 25 % VI, 10 % VII, 60 % VIII, and 5 % IX. [Abstracters
note: Complete translation.]

Instit Organic Chem + Biochem, Czech Acad Sci, Prague

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CZECHOSLOVAKIA

SICHER, J; TICHY, M; SIPOS, F

Institute of Organic Chemistry and Biochemistry,
Czechoslovak Academy of Sciences, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communi-
cations, No 5, May 1966, pp 2238-2256

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TICHY, Matej, inz.

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TICHY, Milos

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- 2. "Preparation of Reports by Milos Tichy, Department of Science, GAT (Czechoslovak Socialist Republic Academy of Sciences) Institute of Physical Chemistry (Ustav chemie fyziky), Prague, Czechoslovakia." National Directorate (lective course: physics), Prague, Czechoslovakia. (Ustav chemie fyziky) Prague, pp 25-26.
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- 4. "Molecular Models in Spectroscopy." Ustav chemie fyziky (Ustav chemie fyziky) Prague, pp 25-26.
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- 11. "Preparation of High-Purity Silica by Vacuum Counter-Current Distillation." Preparation of High-Purity Silica by Vacuum Counter-Current Distillation. (Tichy, Milos) Prague, pp 25-26.
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- 13. "Preparation of High-Purity Silica by Vacuum Counter-Current Distillation." Preparation of High-Purity Silica by Vacuum Counter-Current Distillation. (Tichy, Milos) Prague, pp 25-26.

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TICHY, Milos

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1. Institute of Building Research, Technical University of
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1. Academie Tchecoslovaque des Sciences, Insitut de la Mecanique
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(Concrete, Prestressed)

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TICHY, M; SIPOS, F; SICHER, J

Institute of Organic Chemistry and Biochemistry,
Czechoslovak Academy of Sciences, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 7, July 1966, pp 2889-2898

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1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
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1. Institute of Building, Czech Higher School of Technology, Prague.

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1. Institute of Building, Czech Higher School of Technology,
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1. Stavebni ustav, Ceske vysoke uceni technicke, Praha.

TICHI, Milik, inz. CSc.

/ Sixty six years ago. Poz stavby 11 no.11:625 '63.

VORLICHEK, M. [Vorlicek, M.] (Praga, Chekhoslovakiya); TIKHY, M. [Tichy, M.]
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1. Ustav teoreticke a aplikovane mechaniky, Ceskoslovenska akademie
ved, Praha (for Weiss).; 2. Ustav stavebniho vyzkumu a stavebni
ekonomiky, Bukurest (for Tannenbaum).

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(Girders) (Elasticity)

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1. UPMD Praha-Podoli, reditel doc. dr. M. Vojta.
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(CORTISONE, ther.)

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99 no.35:1092-1098 26 Ag'60.

1. Ustav pro peci o matku a dite, Praha-Podoli, prednosta doc.
dr. M.Vojta.

(ANTIBIOTICS ther)
(CERVICITIS ther)
(STERILITY FEMALE etiol)

DYKOVA, H.; ~~TICHY, M.~~; KNEDLHANSOVA, E. Technicka spoluprace: ZNAMENACKOVA, M.;
JIROUSKOVA, L.; KUBALOVA, J.; ZAMAZALOVA, T.

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1. Ustav pro peci o matku a dite, Praha-Podoli, reditel prof.
MUDr. Jiri Trapl.

(CERVICITIS ther)
(ANTIBIOTICS ther)

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MUDr.Miroslav Vojta.

(STAPHYLOCOCCUS)

(GERVICITIS microbiol)

HAVRANEK, E., C.Sc.; DYKOVA, H.; TICHY, M.; TOMASOVA, E.; Tech. spolupraee
L. Kolesovova, J. Kubalova, J. Rott.

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(CERVIX UTERI pharmaeol) (ANTIBIOTICS pharmaeol)

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MUDr. M.Vojta.

(STERILITY FEMALE ther)

(GONADTROPINS PITUITARY ther)

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1. Institut khimii prirodnykh soyedineniy AN SSSR. 2. Sotrudnik Instituta organicheskoy khimii i biokhimii Chekhoslovatskoy Akademii nauk (for Tikhi).
(Valeric acid) (Stereochemistry) (Antibiotics)

Y. L. L. L.
TICHÝ, M.

CZECHOSLOVAKIA

ŠIPOŠ, F; KRUPÍČKA, J; TICHÝ, M; SICHER, J.

Czechoslovakia

Institute of Organic Chemistry and Biochemistry,
Czechoslovak Academy of Science -- Prague - (for
all)

Prague, Collection of Czechoslovak Chemical Communi-
cations, No 9, 1962, pp 2079-2088

"Stereochemical Studies. XXIII. The 4-t-Butyl-2-
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KUCHAR, Karel; ROUBIK, Ondrej; LUKNIS, M.; KORCAK, J.; TICHY, Otakar;
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TICHY, Stanislav

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1. Klinicka otorinolaryngologicka laborator GSAV pri Universite Karlove, vedouci akademik Antonin Precechtel.

(HOSPITALS)

(RESPIRATORY TRACT INFECTIONS)

TICHY, S.; SKERIK, P.

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bronchitis. Cesk. otolaryng. 1/4 no.2:89-92 Ap'65.

I. Otolaryngologická laborator Československé akademie věd
v Praze (vedoucí akademik A. Freudentel) a Otolaryngologická
klinika fakulty všeobecného lékařství Karlovy University v
Praze (prednosta: prof. dr. K. Sedláček).

ZEMAN, K.; TICHY, St.

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1. Otolaryngologicka klinika University Karlovy v Praze, pred-
nosta akademik prof. Antonin Precechtel.
(OTITIS MEDIA compl.)
(MASTOIDITIS etiol.)
(ANTIBIOTICS ther.)

SALEK, J.; TICHY, S.; LUTTENBERG, J.

Primary resection of the thoracic trachea for carcinoma. Rozhl.
chir. 39 no.3:150-154 Mr '60

1. II chirurgická klinika Karlovy university v Praze, přednosta
akademik J. Divis ORL klinika Karlovy university v Praze, přednosta
akademik A. Precechtel Anatomický ústav Karlovy university v Praze,
přednosta prof. MUDr. et RNDr. L. Borovanský.
(TRACHEA neoplasma)
(CARCINOMA surg.)

STASEK, V.; JAKOUBKOVA, J.; KOLAR, J.; BRACHFIELD, K.; TICHY, S.;
LOKAJICEK, M.; BALY, V.; Technika spoluprace ISBEMIKAZA A.

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'65.

I. Onkologicka laborator, radiologicka klinika fakulty vse-
obecneho lekarstvi Karlovy University v Praze, II. pediatricka
klinika fakulty detskeho lekarstvi Karlovy University v Praze,
Otorinolaringologicka laborator Ceskoslovenske akademii ved
v Praze, Vyzkumny ustav n.p. Tesla v Premysleni, Ustav ser a
ockovacich latek v Praze.

TICHY, S.

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CZECHOSLOVAKIA

STASEK, V., Docent MD; JAKOUBKOVA, J., MD; KOLAR, J., MD;
LOKAJICEK, M., Dr., Radiologist; BRACHFELD, K., MD;
TICHY, S., MD.

1. Oncological Laboratory FVL (Onkologicka laborator FVL), Prague; 2. Radiological Clinic FVL (Radiologicka klinika FVL), Prague (for Lokajicek); 3. Research Institute and Development Institute (Vyzkumny a vyvojovy zavod), Premysleni; 4. Second Pediatrics Clinic, ORL Laboratory CSAV (II. pediatricka klinika, ORL laborator CSAV), Prague

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TICHY, Stanislav

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1. Klinika nemoci usnich, nosnich a hrtanovych Karlovy university v Praze. Klinicka otolaryngologicka laborator CSAV, reditel akademik Antonin Precechtel.

(RESPIRATORY TRACT INFECTIONS)
(BRONCHOSCOPY)

TICHY, St.; KACL. J.

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1. Klinika nemoci usnich, nosnich a hrtanovych fakulty vseobecneho lekarstvi University Karlovy v Praze, klinicka laborator CSAV, prednosta akademik Antonin Precechtel. Radiologicka klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. V.Svab.
(BRONCHI wds & inj)

TICHY, Stanislav; SKERIK, Pavel

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1. Otolaryngologicka klinika KU v Praze, prednosta akademik Antonin Precechtel.

(TRACHEA neopl)

VOLDRICH, L.; KUSAK, V.; TICHY, S.

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1. ORL laborator Ceskoslovenske akademie ved v Praze (reditel akademik A. Precechtel) a Otolaryngologicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. K. Sedlacek).

TICHY, Stanislav

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Cesk. otolar. 10 no.4:207-212 Ag '61.

1. Klin. otolar. laborator CSAV pri Karlove universite, vedouci akademik
A. Precechtel.

(ENVIRONMENT) (HOSPITALS)

SCHLUPEK, A.; SALEK, J.; TICHY, St.

Malignant cylindroma of the trachea. Rozhl. chir. 40 no.7:489-492
Jl '61.

1. II patologicko-anatomicky ustav University Karlovy v Praze, pred-
nosta prof. MUDr. V. Jedlicka.

(TRACHEA neoplasms) (CYLINDROMA case reports)

TICHY, Stanislav

Effect of occupational factors and morbidity of chronic inflammatory diseases of the respiratory tract. Cesk. otolaryn. 11 no.4:214-217 Ag '62.

1. Klinika nemoci usnich a krcnich fak. vseob. lek. Karlovy university v Praze, prednosta prof. dr. K. Sedlacek Klinicka otolaryngologicka laborator GSAV, prednosta akademik A. Precechtel.
(OCCUPATIONAL DISEASES) (RESPIRATORY DISEASES)

TICHY, V.

Requirements for the components of a Schering bridge. p. 150.

STROJNICKY CASOPIS. (Slovenska akademia vied) Bratislava, Czechoslovakia.
Vol. 6, no. 3, 1955.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11,
November 1959.

Uncl.

TICHY, Vaclav, inz.

Experiments with increasing the population of insectivoreous birds
by putting up birdhouses. Les cas 9 no.1:71-84 Ja '63.

1. Vyzkumny ustav lesniho hospodarstvi a myslivosti, Zbraslav -
Strnady.

TICHY, Vladimír, inž.

The conference on pipeline compensation. Tech prace 14 no.7:
553-555 J1 '62.

1. Inspektor povrchove výroby, Vystavba ostravskokarvinských
dolu.

TICHY, V.

Some experiences with nitrogen protection of transformers in the Moscow transformer manufacturing plant. p. 311.

ELEKTROTECHNICKY CASOPIS. (Slovenska akademia vied) Bratislava, Czechoslovakia, Vol. 10, no. 5, 1959.

Monthly list of East European Accessions (EEAI) LC, vol. 9, no. 1, Jan. 1960.

Uncl.

CZECHOSLOVAKIA

KUBECOVA, D, MUDr; TICHY, V; HAVLIK, J

1. Clinic of Infectious Diseases, Faculty of Children's Medicine (Infekcni klinika fakulty detskeho lekarstvi) (for ?); 2, Contagious Section (Infekcni oddeleni), (for ?); 3, Clinic of Infectious Diseases, Faculty of Medical Hygiene (Infekcni klinika lekarske fakulty hygienicke) - (for ?) All faculties in Prague

Prague, Vnitřní lékařství, No 3, March 1966, pp 277-279

"A fatal case of salmonellosis bovis morbificans."

TICHY, V.

Effect of the organic compost substances soluble in ethanol on the sugar metabolism of the green-plant parts. In German. p. 157.

BIOLOGIA PLANTARUM. (Ceskoslovenska akademie ved. Biologicky ustav) Praha, Czechoslovakia. Vol. 1, no. 2, 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, no. 12, December 1959 uncla.

TICHY, V.; ORT, M.

Measurement of permeability of plastic cable coverings. p. 211.

ELEKTROTECHNICKY CASOPIS, Bratislava, Czechoslovakia, Vol. 10, No. 4, 1959

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 10,
Oct. 1959.
Uncl.

TICHY, V.; SLADKY, Z.

Application of humus substances to overground organs of plants. In English.
p. 9

BIOLOGIA PLANTARUM. (Ceskoslovenska akademie ved. Biologicky ustav)
Praha, Czechoslovakia, Vol. 1, no. 1, 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 11, Nov. 1959
Uncl.

TICKY, V.

Some factors influencing the electric strength of transformer oil and its measurement. p. 105.

ELEKTROTECHNICKY CASOPIS. Bratislava, Czechoslovakia, Vol. 10, No. 2, 1959.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 10, Oct. 1959.
Uncl.

TICHY, V.

Effect of some humus groups on the content of reduction and nonreduction sugars in the above ground part of wheat. In German. p. 107.

BIOLOGIA PLANTARUM. (Ceskoslovenska akademie ved. Biologicky ustav) Praha, Czechoslovakia. Vol. 1, no. 2, 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, no.12, December 1959 uncla.

KOUBA, Karel; TICHY, Vaclav

Some data on the epidemiology of infectious mononucleosis. Cas.lek.
cesk 100 no.48:1524-1530 1 D '61.

1. Infekcni klinika Praha 8 - Bulovka, prednosta prof. MUDr. Jaroslav
Prochazka.

(INFECTIOUS MONONUCLEOSIS epidemiol)

Category : Plant Physiology, Growth and Development.
ABS. JOUR. : RZSBIOL., No. 5, 1959, No. 19975
AUTHOR : Stchy, Vladimir; Chalupova-Janovicova, Jindriaka
TITLE : Effect of Humus Substances on Seed Germination
and Growth of certain Cultivated Plants.
ORIG. PUB. : Ceskosl. biol. 1958, 7, No. 2, 135-140
ABSTRACT : No abstract

CARD: 1/1

TICHY, Vladimir

Influence of some humus fractions upon the growth and glyzide metabolism of plants. Acta agrobotan 9 no.1:145-158 '60.

1. Laborator pro fysiologii a anatomii rostlin, University, Brno, CSR.

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 1ST AND 4TH ORDERS

BC B-I-8

Formation of sulphuric acid in presence of nitrogen oxides. A. V. Tsvetkov (J. Chem. Ind. Russ., 1936, 13, 167-183).—The velocity of oxidation of SO₂ falls with rising temp., and is greater in the gaseous than in the liquid phase. The [NO₂] in the chambers is < would correspond with the amount of SO₂ oxidized in a given time; the conjugated reaction SO₂ + NO + O₂ → SO₂ + NO₂ is postulated. The process can be accelerated by lowering the temp. in the contact chambers, by increasing [NO₂] and/or [O₂] in the reaction mixture, and by scrubbing with more dil. acid, thereby accelerating decomp. of NO-OSO₃. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS 1ST AND 4TH ORDERS

117 AND 120 GROUPS

PROCESSES AND PROPERTIES INDEX

119 AND 121 GROUPS

BC

C-L-8

CONCENTRATION OF NITRIC ACID BY MEANS OF PHOSPHORIC ACID. A. V. TOMONOV and J. V. KOSYRINA (J. Chem. Ind. Russ., 1944, 12, 1348-1349).—66— 87% HNO₃ is obtained by adding 0.5-1 g.-mol. of P₂O₅ per g.-mol. of H₂O present in the dil. HNO₃ and distilling. The same effect is achieved by a two-stage distillation, taking H₂O:P₂O₅ = 3:1. R. T.

COMMON ELEMENTS

COMMON VARIANTS INDEX

ASM-51A METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

QUALITIES

GROUPS

QUALITIES

1ST AND 2ND CROSS
PROCESSES AND PROPERTIES INDEX
1ST AND 2ND CROSS

B I 5

Concentration of nitric acid. A. V. Timonov
 (J. Chem. Ind. Russ., 1954, No. 4, 60-64)—69%
 conc. (I) is distilled from its mixture with Glover
 (70%) H₂O; (II), and the distillate, consisting of 70%
 (I) and 30% water, is re-distilled and a third
 column with further quantities of 70% (II), to yield
 finally 100% (I). The necessity of using conc. (II) is
 then obtained, leading to considerable economies in the
 production of (I). R. T.

ASB-ILA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

1ST AND 2ND CROSS

1ST AND 2ND CROSS

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH CODES

bc

a-1

Reactivity of water-vapour and oxides of
transition elements in acid solutions.
J. Chem. Soc. Lond., 1955, 20, No.
1, 1-10. R. T. ...

ABB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CODES

3RD AND 4TH CODES

5TH AND 6TH CODES

7TH AND 8TH CODES

9TH AND 10TH CODES

11TH AND 12TH CODES

13TH AND 14TH CODES

15TH AND 16TH CODES

17TH AND 18TH CODES

19TH AND 20TH CODES

21ST AND 22ND CODES

23RD AND 24TH CODES

25TH AND 26TH CODES

27TH AND 28TH CODES

29TH AND 30TH CODES

31ST AND 32ND CODES

33RD AND 34TH CODES

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37TH AND 38TH CODES

39TH AND 40TH CODES

41ST AND 42ND CODES

43RD AND 44TH CODES

45TH AND 46TH CODES

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51ST AND 52ND CODES

53RD AND 54TH CODES

55TH AND 56TH CODES

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67TH AND 68TH CODES

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71ST AND 72ND CODES

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83RD AND 84TH CODES

85TH AND 86TH CODES

87TH AND 88TH CODES

89TH AND 90TH CODES

91ST AND 92ND CODES

93RD AND 94TH CODES

95TH AND 96TH CODES

97TH AND 98TH CODES

99TH AND 100TH CODES

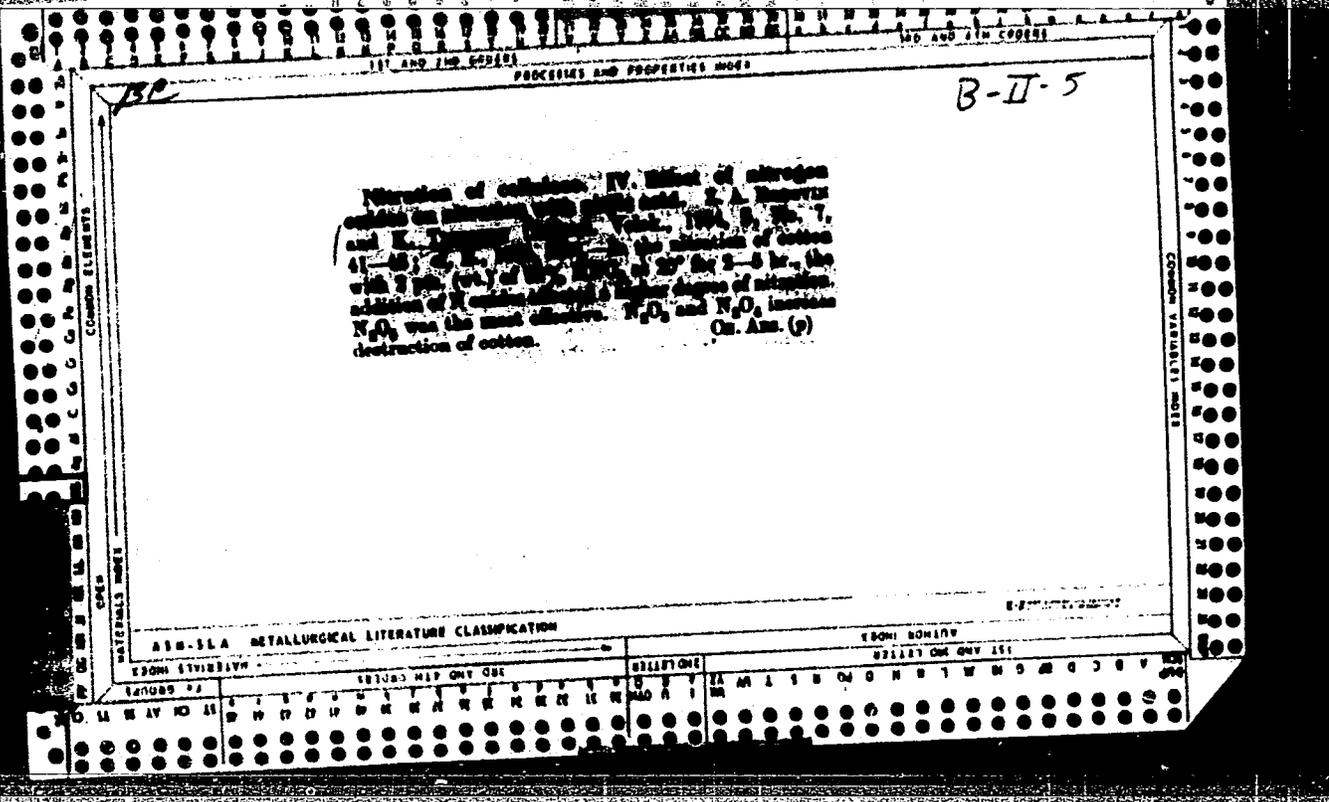
PROCESSES AND PROPERTIES INDEX

5

***Investigation of Mineral Paints and Varnishes Used for Metals in Aircraft Building.** E. N. Tichonov (*U.S.S.R. Sci. Res. Inst. Publ. No. 467; Trans. Central Aero-Hydrodynamical Inst. No. 86; Res. Assoc. Brit. Paint Manuf. Rev., 1934, (27), 58.*)—[In Russian.] The decraftometer was used to determine the covering power of paints to be applied to aluminium alloys. Sea-water and fresh-water experimental tests of the films were also carried out. The laboratory tests could be correlated with tests conducted under practical conditions in the Black Sea. Other tests are required for resistance to the action of liquid fuels and lubricating oils. The best white pigment was white lead and the best black was lampblack; the greater protection was afforded by a mixture of zinc chromate, ferric oxide, lampblack, and Prussian blue. Zinc sulphide was entirely unsatisfactory. Bituminous varnishes are recommended for underwater protection, but deteriorate rapidly if exposed to the weather.—S. G.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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BC

197

Corrosion of iron at the boundary metal-liquid-gas and metal-liquid-liquid. M. K. TICHONOV (Compt. rend. Acad. Sci. U.R.S.S., 1937, 17, 316—317).—A drop of aq. $HgCl_2$ corrodes polished Fe or steel exposed to the atm. with the formation of hydroxide at the periphery and centre. The even distribution of Hg droplets formed during corrosion creates a large no. of local elements on which differential aeration exerts no influence. If, however, C_2H_2 be used as the third phase, instead of air, corrosion is more pronounced at the centre of the drop of $HgCl_2$, with the formation of droplets of Hg and minute bubbles of H_2 . The latter carry with them a little solution and start corrosion centres at points away from the drop. The results with C_2H_2 are in accordance with Evans' theory of differential aeration. R. S. B.

ASME-51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION 1										SECTION 2										SECTION 3										SECTION 4									
SUBSECTION 1										SUBSECTION 2										SUBSECTION 3										SUBSECTION 4									
SUBSECTION 1										SUBSECTION 2										SUBSECTION 3										SUBSECTION 4									

117 AND 120 ORDERS PROCESSES AND PROPERTIES INDEX 121 AND 124 ORDERS

BC **B-T-5**

DESCRIPTION OF PROTECTIVE COATINGS ON IRON AND STEEL FROM VAPORS OF CERTAIN OILS AND FROM FUSED OXIDES. R. E. SHAWVER (J. Appl. Chem. Res., 1959, 12, 1622-1627).—Films protecting Fe and steel surfaces from corrosion by sea-H₂O are obtained by exposure of the articles to pine oil or oleic acid vapors (10 min. at 300–400°); the films consist of impregnated layers of org. acids and polymerization products. A protective oxide film is obtained by dipping the articles in fused Sn, Ag, LiKNO₃, NaNO₃, CrO₃ (1–2 min. at 300–400°). R. T.

ALB-51A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS COMMON VARIABLES INDEX

117 AND 120 ORDERS PROCESSES AND PROPERTIES INDEX 121 AND 124 ORDERS

TICHONOVA,

"Sur la deshydratation des alcools tertiaires de la serie $C_nH_{2n-1}OH$ sur l'alumine".
Petrov, A. D. en collaboration avec Vlassov, V. V.; Stankevich, E. E.; Tichonova,
Komlev, S. N. (p. 2138)

SO: Journal of General Chemistry
(Zhurnal Obshchei Khimii) 1939, Volume 9, #23

TICHONOVA, A

"Equilibrium in the system $\text{BeCl}_2\text{--BaCl}_2\text{--H}_2\text{O}$ " by A. Novosselova, R. Lanilevitch and A. Tichnova (p. 442)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1946, Volume 16, No. 3

TICHONOVA, G. N.

"Synthese des alcools secondaires et leur deshydratation sur L'alumine".

Petrov, A. D.; en collaboration avec Soumine, I. G.; Meerovic, Z. A.; Koudrina, K. N.;
Tichonova, G. N. (p. 2144)

SO: Journal of General Chemistry
(Zhurnal Obshchei Khimii) 1939, Volume 9, #23

TICHONOV, V.

How to use green fodder for fattening swine for bacon.

P. 9 (PADOMJU LATIJAS KOLCHOZNIKIS) Riga, Latvia Vol. 9, No. 6, June 1957

SO: Monthly Index of East European Accessions (AMEI) Vol. 6, No. 11 November 1957.

TICHONOV, V.

Industrial crossbreeding of White Latvian and Estonian pigs.

P. 24. (PADOMJU LATVIJAS KOLCHOZNIKS) (Riga, Latvia) Vol. 9, no. 12, Dec. 1957

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

112000 01/10/1957

Czechoslovakia/Chemical Technology -- Chemical Products and Their Application.
Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1679

Author: Tichomirova, V., and Simackova, O.

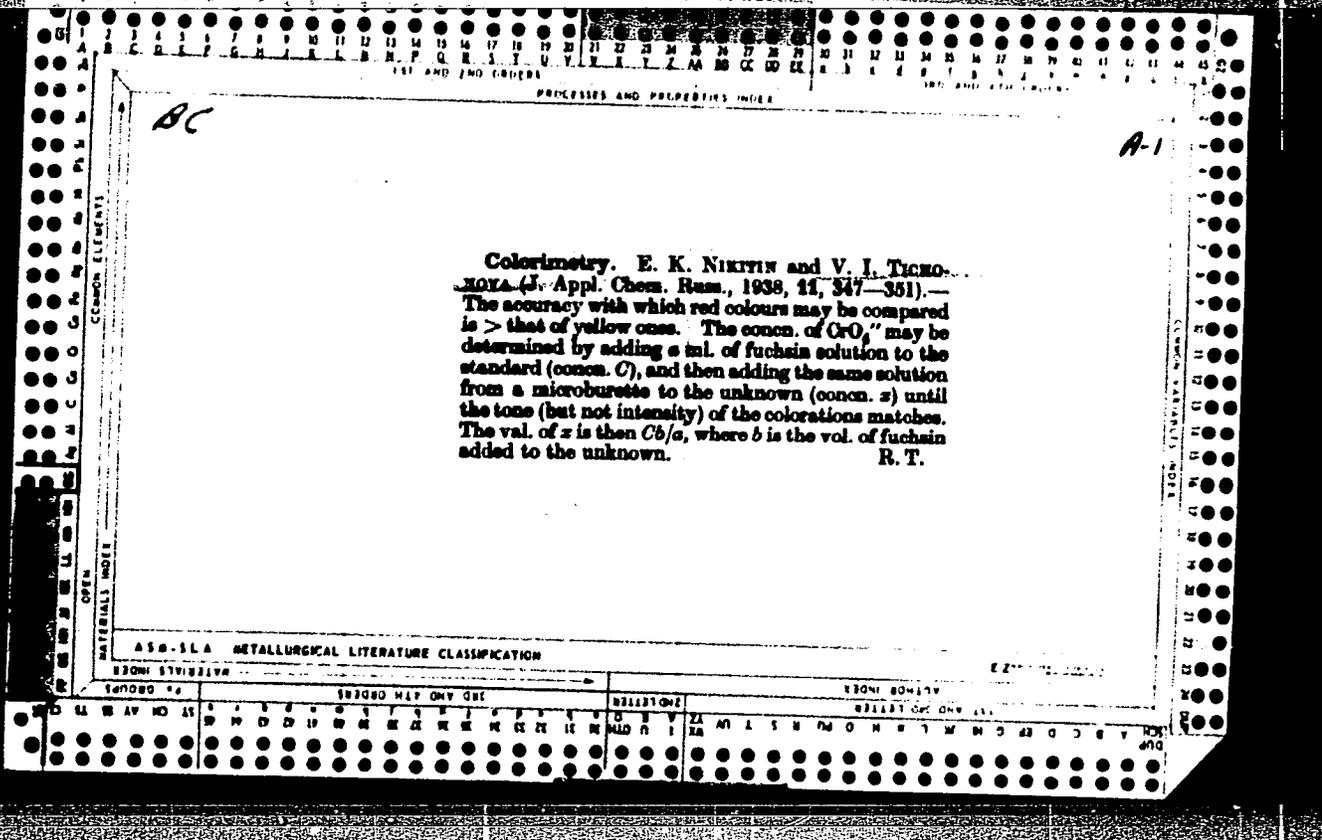
Institution: None

Title: Discussion of Chanek's Article "A Rapid Method for the Analysis of
the Raw Materials Used in Cement Factories"

Original
Periodical: Stavivo, 1956, Vol 34, No 4, 157; Czech

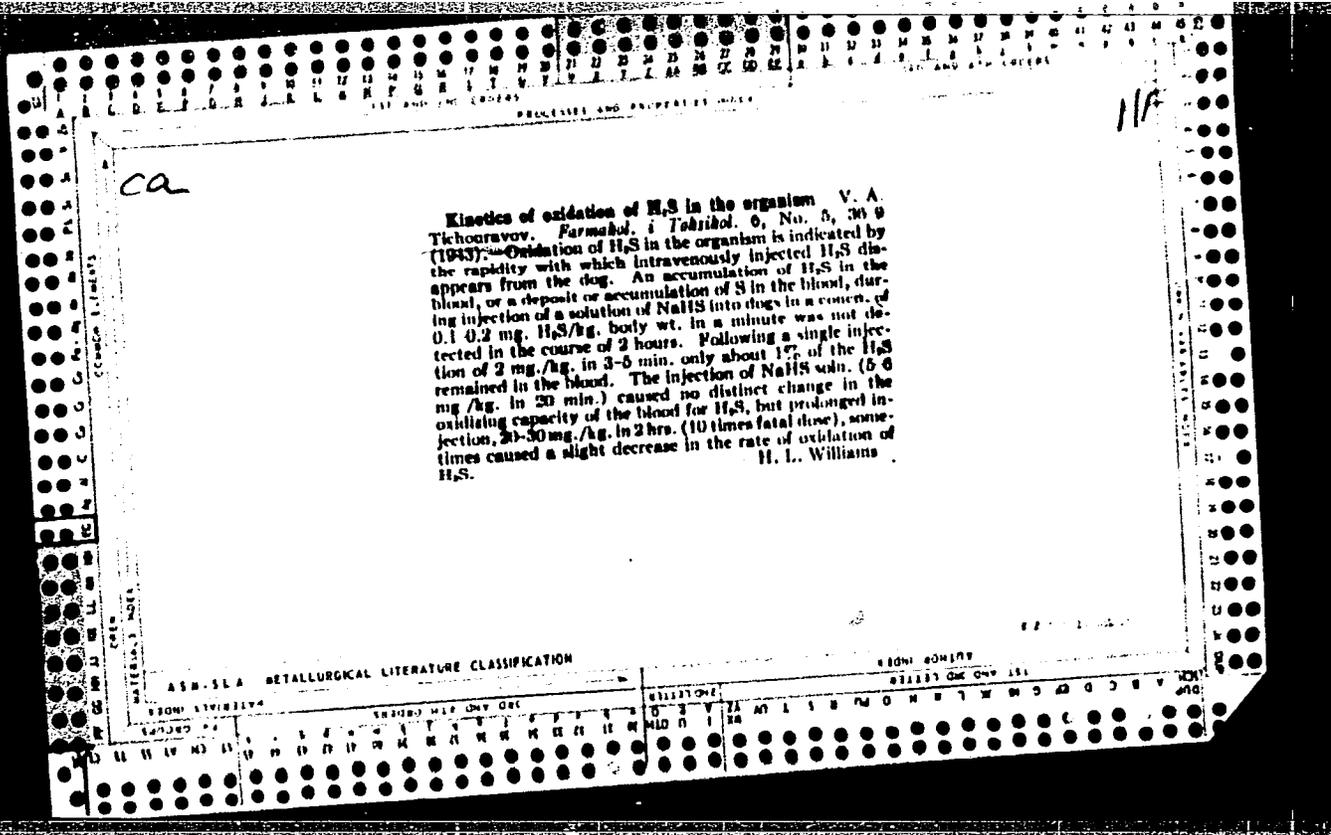
Abstract: Available data on the application of complexometric titration in the
determination of CaO and MgO in cement raw materials confirm the
fact that this method gives results comparable to those obtained by
the classical methods. See Referat Zhur - Khimiya, 1956, 65791.

Card 1/1



TICHONOV, W. W.

"Okretowe napędy elektryczne" (Electric ship propulsions), by W.W. Tichonow.
Reported in New Books (Nowe Książki), No. 12, June 15, 1956.



TICHOPAD, S.

Problems of airplanes with adjustable wings. (Conclusion)

P. 818. (KRIDLA VLASTI.) (Praha, Czechoslovakia) No. 26, Dec. 1957

SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, May 1958

TICHOPAD, V.

Problems of an airplane with convertible wings; excerpts from a lecture.
(To be contd.)

P. 790. (KRIDLA VLASTI.) (Praha, Czechoslovakia) No. 25, Dec. 1957

SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, May 1958

10.1500

28599

Z/C40/61/000/011/001/003

D005/D102

AUTHORS: Frynta, Vladimír, Engineer, and Tichopád, Vladimír, Engineer

TITLE: Tilting-wing aircraft. The use of a flying model for research on new concepts of V/STOL aircraft

PERIODICAL: Letecký obzor, no. 11, 1961, 349-351

TEXT: The article deals with several problems which arise in designing V/STOL aircraft and which are quite different from those connected with the design of conventional aircraft. Tests of V/STOL aircraft models in large wind tunnels yield inaccurate results due to the fact that the medium and the model are not mutually active. To eliminate this disadvantage the following systems of testing captive models can be used: (1) The model is attached to a slewing-crane jib. (2) The model is freely suspended from a truck-crane jib. (3) The model is freely suspended from a travelling-crane jib. (4) The model is freely suspended from a crab travelling on a cable tightened between two masts. The latter system has been selected, and a test rig has been built at the airfield of the Výzkumný a zkušební letecký

Card ~~1~~/4

X

28599

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D005/D102

Tilting-wing aircraft.

ustav (Aviation Research and Testing Institute) in Letňany. Its diagram is shown in Fig. 1. The design of the model and the rig is such that it not only enables qualitative tests but also quantitative measurements. The measuring instruments on the model are fitted with pickups and their electrical signals are recorded in a control cabin. The model is built mainly of wood and glass laminates. It is fitted with two 2.5 hp combustion engines driving two, two-blade propellers. The controls and throttle are actuated by an electropneumatic system. The wing-tilting is effected by a small electromotor. For weight-to-power-ratio reasons, the fuel tank and compressed-air cylinder are carried on a trapeze to which the model is attached by a securing cable. The trapeze, in turn, is suspended from the crab which moves on a carrying cable tightened between two masts. This system makes possible horizontal and vertical movements of the model across the entire length of the measuring path in such a manner that its free flight is only very slightly affected by the securing cable and feeding hoses. Technically, the model is very complicated, but its successful solution will substantially accelerate and economize further research on new concepts of V/STOL aircraft. There are 4 figures.

Card 2/4

85174

Z/034/60/000/012/001/015
E073/E535

18.3200

AUTHORS: Wiesner, František, Candidate of Technical Sciences,
Engineer and Tichopádová, Eva, Engineer

TITLE: Influence of the Sulphur Content of the Flue Gases in
Heating Furnaces on the Steel being Heated

PERIODICAL: Hutnické listy, 1960, No.12, pp.923-929

TEXT: In the first part of the paper results published in literature on the subject are summarized. It appears that the possibility of sulphides penetrating along the grain boundaries will be the greater the longer the heating time, the higher the sulphur concentration in the flue gases and the higher the heating temperature. Presence of nickel in the steel assists the penetration of sulphur, whilst silicon counteracts sulphur penetration. Penetration λ of sulphur decreases on heating in an oxidizing atmosphere and increases on heating in a reducing atmosphere. The critical concentration from which increased sulphur penetration into the steel begins is 0.03% SO_2 in the atmosphere during neutral combustion. To evaluate the possibilities of using fuel oil with up to 3% S for strip mill furnaces, the authors carried out tests on heating and rolling low carbon steel, jointly with personnel of the Vitkovice
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85174
Z/034/60/000/012/001/015
E073/E535

Influence of the Sulphur Content of the Flue Gases in Heating Furnaces on the Steel being Heated

Steel Works K. Gottwald. Since no liquid fuel furnace was available and reconstruction of existing gas furnaces was not possible during the short time, the tests were carried out on a suitable furnace fuelled with coke gas to which SO₂ was added from the pressure vessels so as to obtain a sulphur content corresponding to that of fuel oil with 3% S. In the experiments two billets were used of the following composition: 0.07% C, 0.32% Mn, traces of Si, 0.025% P, 0.037% S, 0.09% Cu. One of these was heated without adding SO₂ to the fuel gas, the other was heated with a SO₂ addition to correspond with a 3% S content in the fuel oil. The respective sulphur contents were 0.41 g/m³ and 3.7 g/m³, the latter corresponding to a fuel oil containing 4.2% S. Comparison of the results obtained for the two billets has shown that the mechanical properties of the deep drawing steel did not deteriorate as a result of SO₂ addition; metallographic analysis of specimens from the billet heated with SO₂ addition did not indicate penetration of sulphur into the steel. In addition to the above tests, laboratory tests

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E073/E535

Influence of the Sulphur Content of the Flue Gases in Heating Furnaces on the Steel being Heated

were made on heating and forming four selected grades of steel, using as a fuel M-mazout with a sulphur content of 1.7% and a fuel oil with a sulphur content of 0.45%. During the experiments the sulphur content of the mazout was increased to 3% by adding very finely ground sulphur to the mazout. The heating conditions were the same for all the specimens and the experiments were carried out both in oxidation and reduction atmospheres. The results are largely in agreement with results published in literature. It was confirmed that sulphur penetrates from the furnace atmosphere into the steel surface the more the higher its concentration in the flue gases and the longer the duration of the heating. Under otherwise equal conditions, the intensity of penetration of sulphur is larger in a reduction atmosphere than in an oxidation atmosphere. It was found (Tables 4 and 5) that the malleability of the steel deteriorates with increasing sulphur penetration. In conclusion it is stated that in accordance with results obtained by other authors, as well as the results of practical and laboratory tests carried

Card 3/4